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ORIGINAL COMMUNICATIONS.

ARTICLE I.—*Prolonged Exercise of the Vocal Organs, and of the Organs of Respiration, as a means of strengthening them, and of warding off Incipient Phthisis Pulmonalis.* By STEPHEN W. WILLIAMS, M. D., Deerfield, Mass.

A DOCTRINE has been very generally inculcated by medical men and others, that in weakness of the breast, lungs and vocal organs, these organs must be kept in a quiescent state, and be but little exercised. This opinion appears to me to be ill founded, and productive of more harm than good. It is contrary to the fact that all the muscles of the body gain strength by exercise;—the arm of the blacksmith obtains power and vigor by constantly using the sledge and the hammer; the general muscular system is invigorated by constant exercise in the open air; and I maintain that the vocal organs are strengthened in the same way. True, *excess* of action may weaken and debilitate them, in the same way that excess of action may weaken the muscular energy of the blacksmith and farmer. It is the extreme which must be avoided.

In illustration of the truth of my position, that exercise of the vocal organs, and of the organs of respiration, strengthens them, and even invigorates the lungs, you will permit me to give some account of my own case, and to refer to the cases of some others.

In the spring of 1824, in consequence of a severe cold, I was most violently seized with pneumonia and bronchitis, which ultim-

ately terminated in chronic inflammation of the bronchia. I was freely bled, which was a great injury to me, as, in a few hours, it induced almost a death-like syncope and palpitation of the heart, from the effects of which I hardly recovered during the succeeding summer, and it did not in the least relieve me of the irritation in my bronchia. The sensation for weeks and months was, most of the time, similar to that of having swallowed something through the trachea. A year or two before I had suffered some from the asthma, and I was now laboring somewhat under that affection, especially upon exercise. I expectorated but little, but my cough was incessant, often keeping me awake all night. I emaciated rapidly, and my friends thought I was sinking into phthisis pulmonalis. In some respects I was better in the fall, but my cough still continued, and the irritation of the bronchia was as severe as ever. I was then a Professor in the Berkshire Medical Institution, and greatly feared I should not be able to give my course of lectures there that fall; I, however, determined to make the attempt, and I went to the College and gave two lectures a-day for many days, and afterwards one lecture a-day, till my course was finished, before a class of more than one hundred students, and in a bad sounding lecture room. I always speak quite loud in lecturing and in reading, and each of my lectures occupies an hour; I was satisfied that my speaking did me no harm, notwithstanding the inflammation of the bronchia still continued. On my return home I spent most of my winter evenings in which I was not engaged in practice in reading loud to my family, sometimes two hours at a time. My cough and emaciation continued, with but little abatement, for more than three years, but I continued my practice of reading loud and lecturing during that time.

In the year 1827 I was attacked with palpitation of the heart, with irregular action of it, which occasioned a kind of syncope anginosa at indefinite intervals. At the commencement of the complaint, the paroxysms came on as often as once in a fortnight, and sometimes as often as once in a week; these paroxysms generally continued from one to three hours, during which time my pulse was continually intermittent; I was always prostrated by these attacks, and was continually faint during the paroxysms. The only relief I could obtain at the time was from lying on my left

side and taking stimulants. I always had asthmatic breathing during the period of the attacks, and I think I may date my permanent attacks of the asthma from the time of my bronchitic attack in 1824. I believe I have labored under an organic or structural disease of the heart from the year 1827, which for many years, I am satisfied, has been valvular. Since the year 1839 my pulse has been continually intermittent, at all times, day and night, whether my body was at rest or in motion. No one, who has an organic affection of the heart, is exempt from the asthma. I cannot ascend a flight of stairs, or walk up the smallest hill without inducing it. Previous to the attack of palpitation, in 1827, I was in the habit of smoking three small cigars a day, one after each meal, which is a trifling amount in comparison with what the merest stripling of the present day is in the habit of using. Apprehending that by smoking I might aggravate my complaint, I at once threw aside the use of the cigar, and from that day to this I have not smoked a pipe or a cigar. I am not sure that I received any benefit from this abandonment; but I apprehend, had I continued to smoke, that my complaint would have been aggravated by it. For a few years after this I was in the vile and filthy habit of taking snuff, but I soon became satisfied that it was injuring rather than benefiting me, and I gave it up entirely, and for more than twenty years I have not used a particle of tobacco in any form; nothing would induce me to resort to the pernicious habit again. I more than regained my flesh after giving up the use of tobacco, but the affection of my heart had become so completely structural that it could not be cured by disusing it. Neither do I believe that my complaints were induced by the use of tobacco, yet I have no doubt that it often induces diseases of the heart, and I would recommend a total abstinence from it in affections of that organ. Since I gave it up I am certain that I am not so much affected with fainting fits as before; my general health is better, and for the last twenty years I have done as much business in the practice of physic as I ever did before. Passive exercise, such as riding in a carriage, agrees with me, and I sometimes ride from thirty to fifty miles a-day in the discharge of my professional duties, without inconvenience, over the roughest roads and in the most inclement weather.

I have never yet regained the tone of my lungs, they are always asthmatic, and every time I take cold I suffer greatly from chronic inflammation of the bronchia; still I have constantly kept up the habit of reading loud, and lecturing most of the time, for the last twenty years. In the year 1838 I gave a course of lectures in the College of Physicians of Western New York, and in the same year I gave a course in the Willoughby University of Lake Erie; I gave two lectures a day at each of these places. The next year I gave a course of lectures at the Dartmouth Medical College, and at Willoughby, Ohio. I always spend my leisure winter evenings reading to my family, and I frequently read loud from three to five hours in succession. I am never so happy as when seated in my cushioned elbow-chair, surrounded by my family with their needle-work, by the side of a cheerful fire, and a brilliant solar lamp, reading an interesting book to them; in this way we have all been delighted and instructed, and I am satisfied that my weak lungs have been benefited by the practice.

In addition to the habit of reading loud, I have always been accustomed to expanding my lungs by long inspirations of the breath, and in throwing back my shoulders and arms, to give my lungs the greatest power of expansibility, especially when walking. I never suffer my breast bone to be drawn in, and my lungs to contract, as they otherwise would, from the want of this exertion. To fill the lungs with air to their utmost capacity, needs not the assistance of Ramadge's or Fitche's inhalers, nor, to keep the body erect, of any of those artificial machines to be affixed to the body or chest to obstruct the circulation of the blood; these machines are got up to fill the pockets of the inventors rather than to benefit the invalid.

I was never more forcibly struck with the length of time in which a person could inspire and draw in his breath, and expire and throw it out, than at a meeting of the Teachers' Institute, in Deerfield, last spring. The Professor of Elocution (Russell of Boston) in lecturing upon this subject, exhibited to his class the length of time in which he could be in drawing in his breath and throwing it out; I did not measure the time with my watch, but I absolutely began to grow faint before he got through with the process. Accustomed as I had been to the exercise, I was obliged to desist from

following him before he got half through. I afterwards called upon Professor Russell and related to him my experience concerning the use of the vocal organs as a means of strengthening them. He stated to me that he was a Scotchman by birth, and that when he was young he was very puny, and that his lungs were so much affected that his friends hardly expected to rear him; he was, however, early placed at school, and by exercising his vocal organs in reading, by bodily exercise, and the expansion of the lungs, he became, comparatively speaking, a healthy man, and ultimately engaged in the business of a teacher of elocution, where he has occasion to use the vocal organs to a very great extent. He appears to me to have the greatest capacity of voice of any man with whom I am acquainted, although he has a feeble look and is thin in flesh. He appears to be between sixty and seventy years old.

While Professor Russell was relating his case to me, the Rev. Dr. Sears, president of the institute, remarked that there was always in himself a marked predisposition to pulmonary consumption. After he had completed his theological pupilage, and had began to preach, he was attacked with hæmoptysis or bleeding from the lungs, for which he was ordered to journey. He could ride but a few miles in a day. He arrived at a certain place, the name of which has escaped my recollection, on a Saturday afternoon; it was soon known to the villagers that he was there; a committee of the church waited upon him and requested him to preach for them, as the pulpit was vacant; he informed them that he was journeying for his health, and to get rid of preaching, at least for a while. They, however, so urgently insisted upon his taking part in the exercises, that he consented, expecting to be assisted in the prayers, reading the hymns, &c. He preached in the forenoon and found himself no worse, and was urged again to preach in the afternoon and accepted; no inconvenience followed. He pursued his occupation of preaching, and in a few weeks he was ordained as a settled minister over that society, where it is well known his duties as a speaker were of no ordinary character. Few men have more occasion to exercise their vocal organs than Dr. Sears; his lungs appear to be sound; I should think he was near sixty years old.

Our American Hippocrates, the immortal Rush, speaking of preventives of consumption, recommends "the moderate use of the

lungs in reading, public speaking, laughing and singing. The lungs when debilitated derive equal benefit with the limbs of the body from moderate exercise." In his paper on the use of common salt in the cure of hæmoptysis, he says, "Those persons who have been early instructed in vocal music and who use their vocal organs moderately through life, are seldom afflicted by an hæmorrhage from the lungs. Lawyers, players, public criers, and city watchmen, all of whom exercise their lungs either by *long or loud speaking*, are less affected by the disorder than persons of other occupations."

In the second volume of the *Journal of Health*, I find the following judicious observations on the voice, corroborating my opinion:—"The voice should never be exercised beyond its strength, nor strained to its utmost pitch without intermission; such mismanagement would endanger its power altogether, and render it hoarse and grating. Frequent changes of pitch is the best preservative. The voice, as well as the health of the speaker, suffers materially unless the chest is allowed to expand freely; hence, all compression or restraint should be carefully removed from this portion of the body; for the same reason an erect position should be assumed, as well in speaking and reading aloud as in singing. The tone of the voice is also considerably impaired, and its strength diminished, by a tightly drawn or large cravat. Both in speaking and singing, therefore, the neck should be free from compression, and but slightly covered. The great means of improving the voice, as of all other improvements, is constant and daily practice. The professional exercises at the bar, in the senate, or in the pulpit, if properly attended to with a view to improvement, may suffice for the orator of our times; but the ancients, besides this, were in the daily practice of preparatory declamation; their rule was, after proper bodily exercise, to begin at the lowest tones of the voice and proceed gradually to the highest. They are said to have pronounced about five hundred lines in this manner, which were committed to memory in order that the exertions of the voice might be less embarrassed. The second rule has been anticipated, which is regular bodily exercise. The ancients recommended walking a certain distance before breakfast—about a mile. Riding on horseback we do not find recommended, or practised as a mere exercise,"

though Dr. Sydenham and Dr. Rush considered it as certain a cure for consumption as bark for intermittent fever.

Enough has now been said upon the subject of the exercise of the vocal organs, as a method of strengthening them. I would, however, before closing my remarks, as I am upon the subject of warding off phthisis, warn the consumptive invalid, *after the disease has fairly fixed itself*, against a change of climate—from a northern to a tropical one. While a *very few*, perhaps, have been benefited by it, thousands have found an early grave there. The debilitating effects of the climate, and the discomforts of absence from home and the endearing society of friends, have too often hurried many a victim to an untimely grave. A resort, too, to the thousand-and-one nostrums for the cure of this insidious complaint has also added myriads to the tomb. A specific remains to be found for the cure of this direful complaint, notwithstanding the vaunted eulogies of the various preparations of iodine, cod-liver oil, phosphate of lime, naphtha, &c., &c.

But to the predisposed, before the complaint has actually invaded, a resort to vocal and bodily exercise, a short summer residence at Mackinac, at Lake Superior, at the prairies of Southern Wisconsin and Northern Illinois, and especially at some of your beautiful lake-ports like Chicago, Milwaukee, &c., now that facilities for visiting those places are so great, cannot be otherwise than salubrious, as affording constant amusement for the mind and sufficient healthy exercise for the body.

Deerfield, Mass., *Sept.* 13, 1852.

ART. II.—*Observations on the Various Types of Fever and Dysentery made in the Wards of the Illinois General Hospital, during the Six Months ending Sept.* 25, 1852. By N. S. Davis, M. D., Physician to the Hospital, and Prof. of Practical Medicine and Pathology in Rush Med. College.

The treatment of fevers and dysentery constitutes so important a part of the daily duties of the physician, that it can scarcely receive too much of our attention; and I hold it to be more especially the duty of those who occupy places in connection with public hospitals, in which greater facilities are afforded for comparative observations than in private practice, to give to the profes-

sion the results of their experience. With this view I have caused accurate records to be kept, not only of each case, but of each day's prescriptions, during the whole period of my connection with the Illinois General Hospital.

During the last term of service, there were admitted and treated in the institution 41 cases of intermittent and remittent fevers; 24 of typhus and typhoid fevers; and 12 of dysentery.

Of the first class all recovered and were discharged well; of the second, 21 recovered and 3 died; and of the third, 9 recovered, 2 died and one was removed by friends before its termination either in recovery or death. It may be well to remark that most of the foregoing patients belonged to the poorer class of society, and were seldom brought to the hospital until one, two, or three weeks after the commencement of the attack.

A large majority of the intermittents were chronic cases, which had been suffered to continue until that anæmic state had supervened, marked by muscular weakness, paleness of pro-labia and tongue, sallowness of skin, and in several instances distinct enlargement of the liver or spleen, or both.

In those cases not complicated with visceral enlargements or inflammation, the treatment was generally commenced with the following prescription, viz.:

Sulph. quinine,	15 grs.
Pulv. opii,	3 grs. mix,

divide into three doses, and take one every three hours, commencing at such time that the last dose will be taken about one hour before the expected chill. This was generally sufficient to interrupt the paroxysms, and if so, the continuance of the sulph. quinine in doses of two grains combined with ten or fifteen grains of chloride of sodium, and given three times a-day for two or three days, and once a-day for a week longer, very certainly prevented relapse and rapidly restored the patient. Where the anæmia is well marked, I often add from three to five grains of carb. iron to each dose of the quinine and salt. In several chronic cases, where the patients were much debilitated, the pulse soft, slow and easily compressed, and the organic actions generally sluggish or torpid; instead of giving quinine and opium, my first prescription has been sulph. quinine, 10 grs.; chloride sodium, ℥jss, mix and divide into four

powders; one of which is given every three hours, at such time that the last one will be taken one hour before the expected paroxysm. This has interrupted the paroxysms in such cases with even greater certainty than the quinine and opium.

The subsequent treatment has been the same as already indicated. Where visceral congestions and enlargements exist, I generally make no other alteration in the treatment than to add to the first few doses of quinine given, from two to five grains of blue mass or its equivalent of calomel, and follow it in twenty-four hours by a laxative of rhubarb and soda, or castor oil and oil of turpentine, and a blister over the affected organ. All active purging is avoided; costiveness being obviated by the moderate use of the laxatives just named, or by enemas of warm water and common salt.

Very few cases of remittent fever have come into the hospital the first three or four days after the commencement of the disease. Where such has been the case, and the febrile exacerbations well marked: the pulse full and active; the skin dry and hot; the tongue covered with a white or yellowish white fur; the head, back, and limbs painful; and all the internal secretions scanty; the treatment has been commenced by giving, at intervals of two or three hours, a powder composed of pulv. opii, from 1 gr. to 2 grs.; calomel, 3 grs.; sup. carb. soda, 4 grs.; alternated with a tea-spoonful of spts. nit. dulc. After three or four of these powders have been given, the bowels are freely opened by the exhibition of castor oil, ℥ss, oil turpentine, ℥j, mixed. The operation of the oils is immediately followed by the exhibition of sulph. quinine and opium, in doses of four grains of the former to one or two grains of the latter; repeated every three or four hours until four doses have been taken. The immediate effect of this treatment is, to procure from the bowels two or three copious, dark, and offensive evacuations, followed by a removal of the thirst, pains in the head and back, and an increased secretion from the skin and kidneys. In recent cases, the disease is thus arrested entirely during the first 48 hours of treatment; after which the case may be treated in all respects the same as already mentioned in reference to intermittents after the paroxysms have been arrested. Beef tea or other animal broth, pretty well salted, should constitute an important part of

the diet, and the bowels should be carefully regulated, if possible, without the use of active cathartics. But a large proportion of the cases of remittent fever received into the hospital, like those of intermittents, have already been sick one or two weeks, and have taken emetics or purgatives, and sometimes both.

In a large majority of these cases, I find the skin dry and harsh; the tongue red on the tip and edges, with a dry dirty fur along the middle and back part; the head and back moderately painful; the pulse quick, soft, and easily compressed; the mind often wandering during the height of the febrile exacerbation; the bowels sometimes moderately tympanitic with slight tenderness to firm pressure, or they are very flaccid and empty; the urine is scanty and high colored; the fæcal evacuations thin, dark brown, numbering from two to six in twenty-four hours; and the febrile remissions imperfect. In such cases I have occasionally found full doses of quinine and opium to operate favorably, allaying the manifest irritation of the mucous surfaces, and inducing copious diaphoresis; but in far the larger number of instances they serve only to increase the dullness and tendency to delirium, without improving any of the symptoms; while calomel and cathartics aggravate the intestinal irritation without the slightest control of the fever. During the last six months I have uniformly commenced the treatment of such cases in the following manner, viz.:

℞ Oil turpentine,		ʒij
Acetum opii,		ʒij
Gum Arabic, White sugar,	*a a*	ʒiij rub together thoroughly
And add Water,		ʒij

mix, give one tea-spoonful every three or four hours, with three grains sulph. quinine, added to each. If the patient does not bear well the quinine, or if the pulse be quite feeble with more frequent evacuations from the bowels, I give the emulsion without the quinine, and between each dose give fifteen or twenty grains of chloride sodium, combined with one grain of pulverized opium. This with the regular administration of animal broth for nourishment, and occasional blisters on the abdomen or chest, as the signs of local disease may indicate, generally produces a rapid improvement in all the symptoms; and by continuing the same medicine at longer

intervals, with more liberal diet, the cure will be complete in from one to three weeks. In all these cases there are two important sources of danger. The first consists in depressing the elementary vital forces too low, and thereby inducing a true typhoid condition of the system. The second arises from the development of local complications, of which inflammation and ulceration of the mucous membrane of the intestines is by far the most insidious and frequent in summer, and pneumonia and bronchitis in winter. And the practitioner cannot study with too much patience and accuracy the indications or symptoms that point early to the development of either of these results.

I have already dwelt longer, however, on this part of my subject than I intended, my chief object being to comment on the more continued forms of fever and dysentery.

Of the 24 cases of continued fever embraced in this report, eight were well marked cases of typhus, and the remaining sixteen typhoid or mixed. In making this distinction, I have followed the example of most writers of the present day, without being satisfied of its practical utility or correctness. For after all the discussions on the subject, the *diagnostic* symptoms which serve to distinguish the one variety from the other, are so indefinite and unsatisfactory that the most enlightened practitioner is often wholly unable to satisfy himself under which head a given case ought to be placed. Hence, of the one hundred cases of continued fevers mentioned by Prof. Austin Flint, in his recent volume of Clinical Reports, almost as many are left in the list of *doubtful* as are unhesitatingly placed in the list of typhus or typhoid cases. Such a fact is of itself sufficient evidence that there are no generally recognized and plain differences, which serve to distinguish the one from the other. Hence, it would seem to me much better either to regard the two as different phases or degrees of the same general morbid state, or to unite with certain foreign writers in calling all cases typhoid in which signs of intestinal irritation or ulceration were manifest, and all not presenting this complication, typhus.

Of the twenty-four cases now under consideration, sixteen were Irish, five German, and three Norwegian or Swedish. Ten presented the characteristic typhus eruption over the abdomen and chest; sixteen presented evidence of disease of the mucous surface

of the intestines, such as liquid and offensive discharges more frequent than natural, a full and more or less tympanitic state of the abdomen, with some tenderness to firm pressure; and in all wandering of mind was present at some period of the disease, generally at night, and characterized by a great disposition to get out of bed. In six cases there were distinct signs of pneumonia, almost always involving the middle and inferior lobes; while bronchitis was plainly present in only four cases. Of the three fatal cases, one was admitted in March, with the middle and lower lobe of one lung in a state of hepatization with bloody expectoration, and death took place on the eighth day after admission. The second was a German, admitted in an advanced stage of disease, with pneumonic inflammation in the inferior lobes of both lungs, and a very troublesome epistaxis; he died on the sixth day after admission. The third case was an Irish woman, who had been sick four weeks before admission. She presented a strongly marked typhoid general condition with bronchial and intestinal complications; there was loud mucous ronchus over the upper and central portions of both lungs, with harassing cough and expectoration of a dirty-colored muco-purulent matter; the tongue was brown and dry in the centre, the abdomen full and tympanitic, and the intestinal evacuations thin, brown, copious, and numbering three or four every twenty-four hours. She died on the fifth day after admission. A *post-mortem* examination revealed extensive ulceration of the mucous membrane of the ilium, with several small isolated ulcers in the mucous surface of the colon; and well marked inflammation and thickening of the mucous lining of the bronchial tubes. There was also a calcareous deposit, equal in size to a large pea, attached to one of the larger bronchial ramifications in the left lung. The posterior and lower parts of the lungs were engorged with dark blood, but not inflamed.

Instead of stating my views of the treatment of typhoid and typhus cases, I have thought it might be more satisfactory to the reader to copy from the hospital note-book, kept by my valued assistants, Drs. Parker and Miller, the exact details of one or two cases.

Mr. M., an Irish laborer, aged about thirty-five years, was admitted on the 14th of the month. He had been sick about seven

days with the ordinary symptoms of continued fever. He had been visited by a judicious physician, who had directed him three or four powders, each composed of calomel, 2 grs., and pulv. Doveri 6 grs., given at intervals of four hours, and followed by a table-spoonful of castor oil, which had opened the bowels freely but not excessively.

At the time of admission, he presented a dull, heavy expression of countenance, slight redness of the conjunctiva; the tongue was covered with a brownish fur, and moderately dry; the skin dry and hot; the abdomen full, but not tympanitic; the pulse 110, full, but soft and easily compressed; the skin over the abdomen and chest thickly covered with a small red rash or eruption; the urine nearly natural; the alvine evacuation thin and dark brown, but occurring only once or twice in twenty-four hours; the mind dull and slow of comprehension, often wandering when alone, but easily aroused to answer questions correctly; moderate thirst; no appetite; and complains of little or no pain, but much muscular weakness.

Ordered one tea-spoonful of the following emulsion every six hours, viz.: Oil turpentine, ℥ij; tinct. opii, ℥j; gum Arabic and white sugar, each ℥iij, rubbed together thoroughly, and added to water ℥ij, the whole well mixed. Also, between each dose of the emulsion, one of the following powders, viz.: ℞ chloride of sodium, ℥j; pulv. opii, 3 grs.; mix and divide into six powders. Allow bread water for drink, with the moderate use of beef tea for nourishment.

15th. Continue same treatment.

16th. General symptoms nearly the same as on admission; has had no evacuation from the bowels, and abdomen seems more full. Ordered a mixture of, castor oil two parts, and oil of turpentine one part, a table-spoonful to be given with six drops of laudanum, and omit all other medicines until it has operated.

17th. 8 o'clock, A.M., the oils taken the previous day had not operated—no material change in the symptoms. Ordered a large enema of warm water containing a table-spoonful of chloride of sodium, to be repeated if necessary until the bowels were freely evacuated. Gave internally spts. nit. dulc. For nourishment, gave beef tea, well salted, freely.

19th. Patient seems more prostrated; tongue drier; pulse more

frequent and compressible; mind more dull and wandering. Ordered a powder of carb. ammonia 4 grs., gum camphor 2 grs., pulv. opii ½ gr., mixed, every four hours, with animal broth well salted, as freely as the patient would take it.

20th. Symptoms nearly the same; abdomen more tympanitic, and no evacuation from the bowels during the last 48 hours. Ordered a laxative of castor oil and oil turpentine, to be aided, if necessary, by enemas, and after the operation continue the prescription of yesterday.

21st. Morning—patient had three or four copious fæcal evacuations, but more consistent than previously. The abdomen is now less full and tympanitic, the tongue less dry and better color, the skin moist and temperature natural, mind more clear, but pulse 100 and very easily compressed, with a general sense of feebleness. For the first time, also, there is manifested a disposition to cough, with a thick yellowish expectoration. Ordered the following powders, viz.: ℞ sulph. quinine, 12 grs., chloride of sodium, ʒj, pulv. opii, 2 grs., mix, divide into six powders, and give one every four hours. Also, between each of the powders, a tea-spoonful of the following mixture, viz.: ℞ Hive syrup, ʒj, Tinct. opii et camph. ʒj, mixed. Continue free use of animal broth for nourishment.

22d. Continue same treatment.

23d. Patient seems fully convalescent, but feeble. Ordered ℞ carb. ammonia, 18 grs., sulph. quinine, 12 grs., pulv. G. camph., 6 grs., mix, and divide into six powders, one to be taken every eight hours. Continue same diet.

24th. From this time the patient continued steadily to improve, with little other treatment than a regulated but nutritious diet; and was discharged well on the 2nd of the following month.

The foregoing case presents a fair medium between the extreme typhus and the more inflammatory typhoid cases; and the details of treatment must, of course, vary with the varying conditions of each case. But two great leading objects or indications must be kept constantly in view by the practitioner, in treating all the forms of continued fever. The first arises from the essential and primary morbid condition, consisting in a depressed or impaired state of those elementary properties of all the living tissues, called by physiologists *irritability* or susceptibility and *tonicity*. To

elevate and sustain these elementary vital properties, and thereby restore a healthy degree of activity to all the organic actions must be a leading object with the rational practitioner. So far as my experience goes, both in hospital and private practice, I have found no remedies more efficient for this purpose, than the chloride of sodium or common salt, given in doses of from 10 to 30 grs., and terebinthinate preparations, aided by the judicious but regular administration of animal broth for nourishment. If in extreme cases more diffusable stimulants are required, I greatly prefer carb. ammonia and camphor, to the alcoholic beverages. Of the 21 cases that recovered out of the 24, here reported, not more than three took either wine or brandy, and those only in small quantities and for a very limited period. The second great object is to guard against the development of local complications, and to remove them when already present. To accomplish these purposes, alterative doses of calomel, anodynes, laxatives, fomentations, counter-irritants, and tepid affusions, may all be required in different cases or even in different stages of the same case. The average period of medical treatment in the twenty-four cases, here included, was about eleven days. The shortest time was four days, and the longest twenty-eight.

Of the twelve cases of dysentery treated during the last term, three only were admitted during the first three days after the attack commenced. All the rest had been laboring under the disease from one to four weeks. Of the two fatal cases, one had been sick, previous to admission, two weeks, during which time he had been under Thompsonian treatment. His tongue, mouth and lips were dry as a chip; the upper lip thin and retracted; the nervous system agitated and restless; the abdomen tympanitic; the discharges small in quantity, consisting of mucus, whitish flocculi, and blood, very frequent and painful; skin was dry and harsh, and the urine very scanty.

He was directed to take a powder composed of calomel 2 grs., pulv. opii 2 grs., every three hours; alternated with a tea-spoonful of the following emulsion, viz.: oil turpentine, ℥ij; acetum opii, ℥ij; gum Arabic and white sugar, each ℥iij; rubbed together thoroughly, and added to water ℥ij. To aid in allaying the excessive irritability of the rectum, enemas, consisting of cold water four

ounces, and tinct. opii a fluid drachm, were to be used occasionally. For nourishment, animal broth.

Under this treatment he improved so rapidly that on the fourth day he left the hospital (without permission, however,) to attend to some item of business, promising the nurse that he would be back in a few hours. He did not return until the lapse of 36 hours, and then with all the symptoms much aggravated. After this no permanent relief was obtained, and he died in about two weeks.

The second fatal case had assumed a chronic form before admission. The patient was much emaciated, feeble, pulse small and frequent; and discharges frequent, painful, and consisting of muco-purulent matter mixed with blood. There was evidently extensive ulceration of the mucous membrane of the colon and rectum. He finally sank exhausted after lingering six weeks, during which he was sustained by stimulants, tonics, anodynes and nourishment. Nit. argenti, both by the stomach and rectum, were tried without benefit; as well as a considerable variety of other medicines.

Of the nine cases of dysentery that recovered, three were admitted during the first three days after the attack. Of these one presented the disease in the ordinary form, characterized by a general febrile condition, active pulse, thirst, frequent and painful mucous discharges, intermixed with blood.

He was ordered calomel and opium, two grains each, every three hours until the pain and discharges were suspended, to be aided, if necessary, by anodyne enemas. Four doses were sufficient to quiet the bowels, and after allowing them to remain so twenty-four hours they were moved by a table-spoonful of castor oil; after which a few doses of the emulsion of oil of turpentine and acetum opii, as given in the last formula, removed the disease entirely, and the patient went out quite well at the end of the first week.

The other two recent cases presented a very different aspect. One was a servant girl, who had been laboring under symptoms of intermittent fever one or two weeks previous to admission. At the time, her expression was dull and heavy; her tongue dry; her pulse small, quick, and feeble; the cheeks and lips of a purplish or livid color; and the discharges frequent, painful and copious, consisting of a reddish serum, much resembling the *lie* from leached ashes. All the symptoms had been much increased at night.

Ordered her a powder, composed of sulph. quinine 4 grs., pulv. opii 2 grs., acetas plumbi 1 gr., mixed, every two hours until six had been taken, unless the discharges were sooner arrested. The next day the symptoms were improved; the discharges less frequent and copious, but not wholly arrested. The powders were continued every four hours, with a teaspoonful of the turpentine emulsion between each dose. The following day a still further improvement had taken place. The powders were given only once in six hours, and the quantity of quinine in each diminished one half. Beef tea, containing a liberal quantity of salt, was given freely from the beginning. Her recovery was rapid, being fully convalescent at the end of the first week after admission.

The other recent case was that of a young man, in whom the dysentery was complicated with well marked cholera symptoms. The discharges yielded to the liberal use of opium and acetate of lead, combined with small doses of calomel; a blister over the epigastrium; and anodyne and astringent injections.

The remaining six cases had all been sick from one to two weeks before admission. Five of them presented a distinct typhoid state, and had taken more or less evacuating medicine. Their treatment consisted chiefly in the administration of the turpentine emulsion with acetum opii, as already given, repeated every four hours, with a powder composed of chloride of sodium 15 grs., and opium 1 gr., between each dose, and the regular use of animal broth for nourishment. Injections of cold water and laudanum were also frequently used, and sometimes a blister over the abdomen.

The sixth case was complicated with intermittent fever, which, together with the dysentery, was promptly removed by the turpentine and opiate emulsion, to each dose of which was added three grains of sulph. quinine.

CHICAGO, *October* 1, 1852.

ART. III.—*Cases Illustrative of the Benefits from the Use of the Vaginal Speculum*, from an address read before the McHenry Co. Medical Society, Aug. 24, 1852, by E. G. MYGATT, M. D., resident of the Society.

CASE I.—Mrs. ——, aged about 32, of a slender constitution, requested my attendance in October, 1849. I found her pale, emaciated, dejected, unable to walk much, or to sit down unless sup-

ported by a pillow; great tenderness of the sacrum, and much hypogastric pain and uneasiness; menses regular as to time, but scanty and pale in color. Had complained since her last confinement, some two years previous—not much leucorrhœal discharge. By means of the speculum it was found that the cervix was in its natural position, not much enlarged, but dotted over with superficial ulcerations.

The solid nitrate of silver was applied once a week for 8 or 10 weeks, and injections of warm water were used during the interval. Rest in a recumbent position was also enjoined. This case improved greatly under this treatment, so that the patient was able to attend to her household duties, walk about and visit her neighbors on foot.

Case II.—Mrs. A., near neighbor of the above, asked my advice on the 18th September, 1849. She appeared naturally to have a good constitution, but had been complaining for nearly two years since her last confinement, of hypogastric pains, pruritus and leucorrhœal discharge.

On using the speculum, on the 22nd December, 1849, a fungus was discovered an inch and a half long, the size of a pipe stem, attached to a large ulcerated surface on the anterior lip of the enlarged cervix. The os uteri was extensively ulcerated and turned back towards the rectum. The upper portion of the vagina was red and appeared inflamed and irritated by the muco-purulent secretions with which it was filled. The cervix was thoroughly cauterized with the solid nitrate of silver, once in a week or ten days, varying to avoid the menstrual periods.

In this case cauterization was resorted to twelve times, and during the first few weeks absolute rest and a mild diet were enjoined. The morbid secretions were removed frequently by injections of warm water, and the use of a weak solution of the sulphate of zinc during the intervals. The pruritus was subdued by the following: cor. sub. mur. am. a. a. ℥j., water one pint; apply as a lotion every night and morning. This lotion was very prompt in relieving, not only the mother, but three or four of her daughters, who were, and had been for years affected in the same way.

The patient steadily improved under treatment, and is now in the enjoyment of excellent health.

CASE III.—During the month of October, 1849, Mr. ——— called at my office to ask my advice for his wife, whom he represented as affected with severe and long continued dysmenorrhœa and leucorrhœal discharge, of a green appearance. He stated that sexual intercourse was painful, and he feared that she would become deranged if she could not be relieved.

I ascertained by visiting this patient that she was in a miserable state of health, affected with hypogastric pain, cephalalgia, cardialgia, variable appetite, exacerbations of fever, and much mental depression. After the exhibition of suitable medicines to correct the digestive functions, the use of the speculum was resorted to. The cervix uteri was found in its natural position, not much enlarged. The os was open, red, and ulcerated. In the course of the next three months cauterization was resorted to seven times, avoiding the menstrual periods.

The result of treatment in this case has been a decided improvement in the general health, and in the appearance of the os and cervix. The dysmenorrhœa continues in a mitigated form—the paroxysms being shorter and milder.

ART. IV.—*Post Mortem Examination—Rupture of the Intestine without external laceration.* By N. S. DAVIS, M. D.

ON the 14th September, 1852, I was directed by the Coroner to make a *post mortem* examination, in connection with Prof. A. B. Palmer, of the body of Mr. F., aged abont 50 years. The history of the case is briefly as follows:

Mr. F. was the keeper of a saloon, or drinking shop, on South Water-street, and between two and three days before his death he had an altercation with one of his drinking customers, in which he was thrown down and received one or more severe *kicks* from his antagonist directly against the abdomen. Symptoms of most intense peritoneal inflammation immediately followed, accompanied by vomiting, extreme prostration, and death in little more than 48 hours after the injury. On examining the body, six hours after death, we found no external wound, either lacerated or penetrating, nor was there any ecchymosis or discoloration of the skin; but the abdominal parietes appeared swollen and tense.

A longitudinal incision was made from the ensiform cartilage to the pubes, through the linea alba, and another from the crest of one ilium to that of the other. There was little or no appearance of infiltration into the cellular tissue covering the abdominal muscles, but on raising the flaps made by the incisions, the peritoneal membrane lining the abdominal muscles was found inflamed throughout its whole extent, but much more intensely across the inguinal and pubic regions than above. The folds of the same membrane constituting the omentum were also strongly injected with blood, and in a few points adherent to the abdominal walls, by means of recently effused coagulable lymph. The peritoneal covering of the small intestines was very generally inflamed, and in the left inguinal region it was extensively covered with coagulable lymph, intensely red, and adherent to the surface lining the abdominal muscles. On breaking these adhesions, all of which were very recent, a fold of the small intestine lying about one inch above the internal inguinal ring, was found ruptured and its contents discharged into the peritoneal cavity. The rupture or orifice in the intestine was about three-quarters of an inch in length. The peritoneal surfaces in the immediate vicinity of this opening were intensely inflamed and glued together by recently effused lymph. A considerable portion of the intestine was inverted, and the mucous membrane examined; which was found to present, at some points, appearances of moderate inflammation of recent origin, but no marks of ulceration or other more chronic disease. The other abdominal viscera appeared healthy.

I have been induced to put this case on record, because, so far as I recollect, a direct rupture of the intestines by blows on the abdomen, inflicted by a blunt instrument like a man's foot, without leaving any well marked appearances of violence on the external surface, is of sufficiently rare occurrence to be interesting in a medico-legal point of view.

CHICAGO, *September* 24, 1852.

SELECTIONS.

From the New York Medical Times.

On the Maintenance of Life in limbs separated from the body, by the means of injections of blood. By E. BROWN-SEQUARD, M. D., of Paris.

JAMES PHILLIPS KAY has found that blood, injected into limbs of dead animals just after irritability has disappeared, is able to regenerate that vital property. I have gone much farther, and have discovered that, even in limbs having lost their irritability, and having been rigid for several hours, blood is able to regenerate local life.

Moreover, I have found that it is possible to entertain local life for a very long time (more than 41 hours), in one of the limbs of a dead warm-blooded animal. Besides, it is very probable that life may be maintained for months, in limbs separated from the body.

Before relating the last experiment, I must give a short abstract of preceding papers on this subject.*

In many rabbits and Guinea-pigs, I have injected blood in the arteries of limbs, separated from the body and rigid for 15 or 30 minutes, or even one or two hours. I have found that the cadaveric rigidity soon disappeared, and that not only muscular irritability reappeared, but that the motor nerves resumed their faculty of exciting muscles. This last fact is more particularly important, because it is a good proof that the vital property of motor nerves depends on their nutrition, and not on an action of the brain or of the spinal cord.†

In other experiments, I divided the body of a living Guinea-pig into two halves, at the level of the lower border of the kidneys, leaving no communication between the two halves, except by the aorta and the vena cava. I then tied the aorta immediately below the origin of the renew arteries. The muscular irritability gradually diminished and gave way to cadaveric rigidity, in between fifteen and forty minutes, after which the ligature was relaxed, and the circulation re-established in the posterior segment of the body. The rigidity was then observed to disappear little by little, and the muscles and nerves resumed their excitability.

Lastly, in order to ascertain if voluntary movements and sensibility can be restored to limbs that have been in a state of cadaveric rigidity, I have tied the aorta immediately below the origin of the

* See Gaz. Med. de Paris, t. 6., 1851, pp. 379 and 421.

† See, for other proofs, my paper entitled, *Researches applied to Physiology and Pathology*, in the Medical Examiner, No. viii., August, 1852, p. 483.

renal artery in many rabbits. After a short time, the sensibility and the voluntary movements had disappeared in the posterior limbs. Irritability lasted about an hour, rigidity supervened in from an hour to an hour and twenty minutes after the ligature of the aorta. The rigidity was permitted to continue for twenty minutes, and then the ligature was relaxed. The circulation, and by it successively, the muscular irritability, the excitability of the motor nerves, the voluntary movements, and the sensibility, were re-established.

It results from this experiment, that not only real life, i. e. mere muscular irritability and excitability of motor nerves, but all the properties and actions of full life, can be restored in limbs that have been in the state called *rigor mortis, cadaveric or post-mortem rigidity.*

I have also performed some experiments on two decapitated men. One of them was decapitated for thirteen hours, when I injected blood into the arteries of one of the fore arms. Rigidity was then existing in the muscles of that fore-arm, and in those of the hand. They soon disappeared in these last muscles, and they resumed their irritability. In the other man, the injection was made in the brachial artery, and only fourteen hours after the decapitation. The muscles of the arm and fore-arm, which were perfectly rigid and had lost for some time their irritability, became quickly very irritable, and remained living for many hours.

The blood injected in the first of these men was venous, human, healthy blood (my own blood); in the second, the blood injected was the arterial blood of a dog. It is quite indifferent in these experiments whether we inject blood of the same species, or of another species of animal. I may add that even in cases of transfusion in entire animals, the operation may be successful as well when the blood used belongs to the same species as when it belongs to another species, if the blood has been defibrinated. Bischoff has discovered that it is the fibrin of one species of animal which is a poison for an animal of another species. My experiments have demonstrated the exactitude of Bischoff's opinion.

An important deduction from my researches is that fibrin is not the agent of reparation of muscles. This is completely proved by the fact that defibrinated blood is able to repair muscles. Not only fibrin is not necessary for nutrition of muscles; but when defibrinated blood is injected into the limbs, the blood coming out by the veins, after these vessels and also the capillaries have been completely voided of the remaining blood which was in them, contains a small quantity of fibrin. Therefore, when nutrition takes place in the tissues of a limb, fibrin enters or is produced in the blood circulating in that limb. Is that fibrin originated from the globules, or from the albumen of the injected blood, or from another element of that blood? Does it come from the tissues through which the

blood passes? I cannot solve these questions; but I have some good reason for believing that a part, if not the whole, of that new fibrin, comes from the muscles in the capillaries of which the blood passes.

Another interesting fact is that the blood, which was red when ejected, came out nearly black. This change of color takes place as long as putrefaction has not begun in the muscles.*

I have made lately an experiment with the view of ascertaining how long a limb, separated from the body of an animal, may be kept living by the influence of injected blood. I have succeeded in entertaining local life a longer time than 41 hours, in one of the limbs of a rabbit. That animal was a very vigorous, full-grown one. I killed it by hæmorrhage.

Two hours afterwards, the rigidity had begun in most of the muscles of the two posterior limbs, and only a few bundles of muscular fibres had still a slight irritability. A first injection of defibrinated blood was then pushed in the femoral artery of the right posterior limb. Fifteen minutes after the beginning of the injection, local life, *i. e.* irritability, was restored in the limb receiving blood, and cadaveric rigidity had disappeared. The means of testing irritability was the old means used by Glisson, Gorton, and all the experimenters of the last two centuries, I mean a mechanical excitation. I did not use Galvanism, because it exhausts too much muscular irritability, as Autenrieth, Pfaff, and many other observers, have shown long ago. Being aware of this fact, I have always. in my other experiments, used Galvanism as rarely as possible.

Three hours after the death of the rabbit, irritability was still existing in the right limb (the injected limb); the left was perfectly rigid and had not the slightest irritability. Half an hour later, rigidity had begun again in the right limb; blood was injected anew and rigidity disappeared, and local life came again. From that moment until 11 o'clock, P. M. (the death had occurred at 6 o'clock A. M., the same day), blood was injected a great many times, and rigidity did not come again, and the vital properties of muscles was maintained. Of course, the left limb during that time remained rigid, and had not the slightest irritability.

From 11 o'clock, P. M., until 6 d'clock, A. M., the succeeding day, an abundant injection of blood was made every 20 or 25 minutes. The irritability was not powerful, but it existed in all the muscles of the limb. There was no rigidity at all. The injections were then made more frequently, once in each quarter of an hour, until 3 o'clock, P. M., at which time I was obliged to stop them during an hour and a half. At half-past four o'clock, I found

* See, about this change of color of blood in palsied limbs, my paper in the *Medical Examiner*, No. viii., Aug., 1852, p. 486-97.

the limb rigid; and only a few bundles of muscular fibres were still irritable. A very abundant injection was then practiced, and rigidity soon disappeared, giving way to irritability. From this time to 11 o'clock, P. M., a great many injections were made, and irritability was maintained. I was then obliged to give up the experiment. At that moment irritability was strong in all the muscles of the injected limb, except some parts of their pelvic extremities that had not received a sufficient quantity of blood. The next morning, that limb was in full and energetic rigidity. The other limb had already lost its rigidity, and it had an evident smell of putrefaction. The third day after the death of the animal, rigidity was strong in the injected limb, while the other was in an advanced putrefaction.

If we compare these two limbs, we find that the injected one had a strong irritability at the end of 41 hours after the death of the animal; that it was in full rigidity at the 48th hour; that its rigidity gave way to putrefaction only at the 94th hour. The other limb was in full rigidity at the 5th hour after the death of the animal; its rigidity gave way to putrefaction at the 48th hour; and it was in complete putrefaction at the 70th hour.

From this experiment it results that local life may be maintained more than 41 hours in a limb of an animal, by mere injections of blood. No doubt that it would have remained longer if I had continued the injections. How long could life have been maintained? I cannot answer this question positively, but I believe that life could remain for months in limbs separated from the body of an animal. I am led to this supposition by the preceding experiments, and by the results of many other experiments which prove that the nervous system is not necessary to nutrition.*

In the experiment above related, I have used venous defibrinated human blood, and arterial blood of three rabbits. It is nearly indifferent whether we inject venous or arterial blood, but it is absolutely necessary to inject red blood, *i. e.* oxygenated blood. Oxygen is necessary, either because it prevents the alteration of the globules, or because it acts directly on muscles, as Gustavus Liebig has found it does on their external surface when exposed to air. I believe that oxygen is necessary for these two reasons.

Before finishing, I will point out an evident consequence of my experiments on the revivification of muscles. E. Bruecke has given not long ago a new theory of the cadaveric rigidity. He believes that the fluid existing between the muscular fibres, in the cellular tissue, is liquid fibrin, and that the rigidity of muscles is simply the result of the coagulation of that fibrin. This theory has been admitted by many physiologists, and especially

* See my papers in the *Medical Examiner*, Philadelphia, No. 5, May, 1852, p. 321. No. 8, Aug., 1852, p. 486-97.

by the celebrated Du Bois-Reymond. My experiments prove that this theory is false; for if there was fibrin coagulated around the fibres of the muscles, certainly that fibrin should not be rendered liquid again by an action of blood injected in the muscular blood vessels.

From the London Journal of Medicine.

On the Use of Manganese as an adjuvant to Iron. By M. PETREQUIN.

M. PETREQUIN quotes various authors to prove that manganese is a normal constituent of the animal and vegetable tissues; and believes that wherever iron is present in appreciable quantity, manganese co-exists with it. Hence iron alone will not always succeed in blood-diseases. M. Petrequin has observed many cases of chlorosis, which have resisted iron as obstinately as anæmia connected with cancer or organic degeneration. Other cases again, after deriving a certain amount of benefit from iron, remain stationary. Others again appear cured as iron, but the cure is not permanent. The remedy required in this case M. Petrequin finds to be manganese. He does not give it or iron alone, but combines them.

It is especially in *diseases of the blood* that ferro-manganic medicines are useful. They have a special action on the vascular apparatus, on the formation of the blood, and on the circulating fluid itself. They do not act as tonics or astringents; but as regenerators of the blood. They have succeeded admirably in anæmia following hæmorrhage, operations, polypi, metorrhagia, etc.; also in chlorosis attending puberty, which is a more common disease than is generally supposed, and occurs even in males. M. Petrequin has also frequently found the combinations of iron of benefit in the diseases of women at the critical period. He has often seen, in these subjects, *metorrhagia*, accompanied with an aspect of the surface which would lead to the suspicion of organic uterine disease: the hæmorrhage, however, was but a complication, and the patients, apparently in a hopeless state, have recovered under the use of ferro-manganic preparations, conjoined with tonics and ergotine.

In *amenorrhœa* and *dysmenorrhœa*, the patients often imagine that they require to be bled; but care must generally be taken not to comply with this request. M. Petrequin has more than once seen cases of amenorrhœa with severe chlorosis, in which it has not been desirable to hasten the appearance of the catamenia—the consequent loss of blood aggravating the disease. The general state of health must here be attended to. Œdema of the lower limbs sometimes occur in these cases; but it is a less severe com-

plication than when it attends metorrhagia. It often disappears, as the patient recovers, under the use of iron and manganese.

These medicines are no less efficacious in the treatment of *anæmia* resulting from prolonged intermittent fevers, prolonged suppuration, strumous, syphilitic, or cancerous affections, phthisis, etc. Pills and the syrup of the iodide of manganese and iron are preferable in these cases.

In all these cases, the ferro-manganic preparations do not merely act on the stomach and nervous system, but they are absorbed, and assist in the formation of hæmatosine and new blood-globules, so as to restore the blood to its normal condition. Their effect in this way is greater than that of iron alone.

In the *functional affections of the heart* connected with chlorosis and anæmia, and which must not be mistaken for organic disease, a combination of iron and manganese with digitalis and other moderators of the heart's action is advantageous. The same remark applies to the *functional disorders of the lungs*, attending the same constitutional states.

Disordered states of the nervous system are intimately connected with those of the blood. He, as well as M. Gubian, has observed that iron is here better tolerated when combined with manganese. He has also seen benefit from the use of iron with manganese in many cases of *dyspepsia*, *gastralgia*, and *gastro-enteralgia*. Nervous affections of the digestive organs are often the result of chlorosis; and, where stomachics and chinchona have failed, iron has often been found (especially the carbonate, by some English physicians) to be of service. Gastrodynia complicating chlorosis has often yielded to the use of ferro-manganiferous water, and to pills of carbonate of iron and manganese.

In *nervous affections connected with exhaustion* from venereal excesses, onanism, rapid growth, &c., as well as in leucorrhœa, diabetis, &c., M. Petrequin has a high opinion of these medicines. He is continuing his researches on their action in certain cases of sterility from asthenia, and in some hyposthenic affections of the scalp, such as early baldness, alopecia, &c.

M. Petrequin has confined his observations to a limited number of the ferro-manganic preparations; and has made many observations before publishing the formulæ which he finds most useful. Having found, even at an early period, that the medicines were liable to adulteration, he has availed himself of the assistance of competent pharmaceutists. Since the publication of his first memoir, in 1849, these medicines have been extensively used in the South of France and in foreign countries.

The formulæ are few, and correspond to the preparations of iron generally used in France. They are: 1. *Pills* of carbonate of iron and manganese, or iodide; 2. *Lozenges* of lactate of iron and manganese; 3. *Syrups* of lactate or of iodide of iron and mangan-

ese; 4. Ferro-manganic *chocolate;* 5. *Effervescing solution* of iron and manganese.

It has been said that manganese not only preserves water, but purifies that which has undergone a change (Martin Lauzer). Ferro-manganic waters (of which there are many in France and other parts of the continent) can be preserved and carried to a distance;—which cannot generally be done with simple furruginous waters.

M. Petrequin commences by giving the powder of iron and manganese, with some vinous drink; he then administers two pills daily, one before breakfast and one before dinner, replacing them soon by lozenges. The syrups and chocolate complete the treatment. He gives the medicines at meal-time. The syrup he gives before breakfast, in doses of a tea-spoonful; and he finds it useful to administer directly after it some infusion of centaury, or of camomile flowers and orange.

Large doses are unnecessary and useless; for they are liable to produce irritation of the stomach and exhaustion of the nervous system; and the reparation of the blood is slow and progressive, and cannot, even were it desirable, be effected rapidly. Besides, the iron and manganese are not absorbed in any greater quantity, if large doses are given.

Preparations of Manganese and Iron.—M. Burin-Dubuisson of Lyons, who prepared most of the ferro-manganic combinations used by M. Petrequin, has published an interesting *brochure*, in which he gives the necessary details relating to the subject. The following formulæ are extracted from it.

Powder for Effervescing Solution of Manganese and Iron.—Take of coarsely powdered bicarbonate of soda 20 parts; tartaric acid, 25 parts; powdered sugar 53 parts; finely powdered sulphate of iron, 1½ parts; finely powdered sulphate of manganese, ¾ parts: mix carefully and keep in well stopped bottles. A teaspoonful is mixed with each glass of wine and water drunk during meal-time.

Pills of Carbonate of Iron and Manganese.—Take of pure crystallized sulphate of iron, 75 parts; pure crystallized sulphate of manganese, 25 parts; crystallized carbonate of soda, 120 parts; honey, 60 parts; water a sufficient quantity. Pills of 20 centigrammes (3 grains) are made; they keep easily, without becoming oxidized, in well-closed vessels. From two to four are given daily.

Ferro-manganic Chocolate.—One part of carbonate of iron and manganese is first mixed with four of sugar, and divided into large lozenges; of these, 100 parts (grammes) are mixed with 500 of chocolate paste, in the preparation of which 100 parts of sugar have been left out. This will make 800 lozenges, each of which contains about three centigrammes (nearly half a grain) of carbonate of iron and manganese. The chocolate decomposes the hydrated carbonate of manganese and iron of the saccharate into hydrated sesquioxide of iron and manganese; there is no metallic taste.

Syrup of Lactate of Iron and Manganese.—Take of lactate of iron and manganese, 4 parts; powdered sugar, 16 parts; rub together, and add of distilled water, 200 parts; dissolve rapidly, and pour into a mattrass over a water bath, containing 384 parts of broken sugar: filter the solution. This syrup contains about fifteen parts of lactate of iron and 5 of lactate of manganese in 3,000 parts. One or two spoonfuls are taken daily.

Lozenges of Lactate of Iron and Manganese are made by adding 20 parts of the lactate to 400 of fine sugar, with a sufficient quantity of water. The mass will make 840 lozenges; of which six or eight are taken daily.

Syrup of Iodide of Iron and Manganese.—M. Burin Dubuisson forms a solution of iodide of iron and manganese, in the proportion of one part by weight to two of water: the proportion of the salts is about three of iodide of iron to one of the iodide of manganese. Six parts of these are mixed with 294 of simple syrup; of this, M. Petrequin gives one or two tea-spoonfuls daily.

Pills of Iodide of Iron and Manganese.—Take of the officinal solution prepared by M. Burin Dubuisson, 15 parts (grammes); honey, 5 parts; some absorbent powder, 9½ parts. Divide into 100 pills. The honey and the solution are first mixed, and evaporated at first rapidly, then more slowly, to ten parts. Then add the powder, and divide the mass into four parts, which must be rolled in powder of iron reduced by hydrogen; each of these must then be divided on an iron plate into 25 pills, and again rolled in the iron powder. Finally, they are covered with a layer of tolu, according to M. Blanchard's process.

All these preparations must be made very carefully. M. Burin Dubuisson has ascertained that the commercial salts of manganese frequently contain copper, and even arsenic; he hence insists on the necessity of calcining the sulphate of manganese, twice, or more frequently, at a dark red heat, and of carefully testing the solution.

From the Boston Med. and Surg. Journal.

Fellis Bovini, as a Medicine. By A. CUMMINGS, M. D.

THE bile from the gall of the ox has long been known to possess medicinal properties, and to some extent it has been used by the profession as a remedial agent, but I believe it has never gained that confidence among practitioners of which its real value renders it worthy. I have used it somewhat extensively in my practice for a few years past, and in this article I design only to give the result of my own experience with it, and the conclusions to which I have arrived in relation to its real and comparative value. Before

proceeding, however, I would remark that the *form* in which I have almost immediately exhibited it, is that of pills, made of the inspissated gall, rolled in flour, magnesia, pulv. glychyrriza, or some other fine powder, to render them of a suitable consistency. The gall may be evaporated in shallow basins, in an oven, or in the sun, until it becomes sufficiently firm to form into pills as above. This, in my opinion, is far the best method. It may be given in its liquid form, but it is less agreeable to the patient, and if not mixed with proof spirits will soon become unfit for use. The medical properties of this agent, so far as my observation goes, are *laxative, alterative,* and *slightly tonic.* Its most valuable agency is exerted upon the stomach and liver. It seems to combine, in a remarkable degree, the three properties named above, and for many diseases to which the chylopoietic viscera are liable, I have found it a most excellent and valuable remedy. I proceed now to notice its application as a remedial agent in disease.

1st. *Obstinate Constipation.*—I am well aware that this is much oftener a symptom of disease, than disease *per se;* but I notice it in this place in order to speak of it in that form so common to those engaged in sedentary and confined occupations, and especially of females in large cities, amongst whom, for want of proper exercise and care, constipation is so prevalent and detrimental. In cases of this description, I have seldom, if ever, been disappointed of obtaining relief by the use of the agent under consideration. The hardened, compact, clay-colored fæces so common in cases where there is more or less obstruction of the liver, are, by the use of the gall, broken down in the intestines, and rendered so friable as to be easily discharged. This result is procured, not only by the combination of the gall with the hardened concretions, rendering them soft and unirritating, but also by removing the obstruction, and permitting the natural flow of bile from the gall-bladder into the intestines. Thus it answers, in this respect, a two-fold purpose. Any one who doubts the efficacy of this remedy, by pouring a few drops of fresh gall upon hard clay-colored fæces, and observing how soon the mass becomes liquid, cannot fail to be convinced. It imparts a healthy tone to the bowels, and promotes the natural secretions which may become impaired.

2d. In *bilious diseases,* arising from a torpid action of the hepatic function, the gall is an excellent remedy. It seems to act as a stimulant to the liver, and promotes the secretion of the bile, and also to cause it to flow freely into the bowels, and thus accomplish its normal functions in the animal economy.

3d. In *jaundice,* you will find that the exhibition of gall, if continued sufficiently long, even in small doses, will not fail to accomplish a desirable and satisfactory purpose. I could relate the history of many cases in my own practice, in which there was every symptom of this disease, where the gall has acted in the most

satisfactory manner. As a stimulant to the liver, I generally prefer it to blue pill or mercury in any form, though there may be chronic diseases in which the mercury or some other alterative would be preferable. Whoever, at least, will thoroughly test the powers of this agent, I am confident, will find that I have not exaggerated its value. At least I am willing to abide by the judgment of others who may test it, as to the truth of my assertions. It may be necessary to continue the exhibition of this remedy for some length of time in severe cases of jaundice, but it is perfectly harmless, and moreover it may be used in those cases in which mercury cannot be administered, on account of the prejudice of patients or their friends against it, or of any idiosyncracy of constitution where its use may be interdicted. At least it is a most valuable auxiliary.

4th. In *dyspepsia*, also, I have in many cases seen the most gratifying results from the use of this remedy. It seems to impart a good tone to the stomach, and by its laxative effects upon the bowels, as well as by its soothing the irritated mucous surfaces of the stomach, proves, in my hands, at least, an excellent remedy. It leaves the influence of a mild tonic bitter on the stomach, not sufficient, however, to produce pain; and its laxative effects in dyspepsia cannot be but beneficial, for, in most cases in this disease, the bowels are torpid, and not unfrequently obstinately constipated. As a remedy also collaterally.

5th. In *hemorrhoids* and *prolapsus ani*, the gall is justly entitled to our consideration and confidence. If it has no direct or specific influence in removing these forms of disease, it is at least one of the best laxatives in the general torpor of the bowels which accompanies them, since it not only evacuates, but soothes the bowels, and does not produce the irritation in piles and prolapsus ani that most other articles of the class do. But I am also inclined, from my experience with the article, to believe that it exerts a very favorable influence, at least, in the *cure* of these troublesome and painful affections. At least it justly merits a fair trial.

6th. In *bilious and intermittent fevers*, the gall cannot but exert a favorable influence, since its office is not only to act as an alterative, and rouse the liver to its wonted action, but also to carry off from the bowels the superabundant bile, and give tone to the chylopoietic system. In a word, in all those forms of disease, (and they are many,) arising from torpor of the hepatic system, I believe that there are few medicines that will give equal satisfaction with the one under consideration, and it is certain that no remedy is more safe in its administration and effects.

One more tormenting and dreaded effect arising from bilious derangement, in which the gall acts in a very favorable manner, I had almost forgotten to mention.

7th. *Sick headache*, so called, though not strictly speaking, a

disease, is a sympathetic, symptomatic affection, of very frequent occurrence, and always excruciating, and dreaded by those who are subject to it periodically, or occasionally. As it arises from a bilious state of the stomach, the gall, given in small doses, and as frequently as is necessary, seldom fails to mitigate the symptoms, or entirely to relieve, or prevent its accession. It should be given in periodic cases for a season of at least a day or two before the anticipated attack.

8th. In *typhus and typhoid fevers*, it is an excellent laxative, where strong cathartics are not required, and will be found worthy of confidence, whenever a remedy of the class seems to be indicated. Also in the low forms of

9th. *Nervous and continued fevers*, no better laxative, in my judgment, can be found, since in those cases strong cathartics are almost invariably contra-indicated. But I need not particularize further, since I believe enough has been said to give my ideas in relation to the class of cases in which this remedy is indicated; and as I cannot expect to gain the confidence of practitioners without their first giving the article in question a fair and impartial trial, I have perhaps already written too much. I am confident, however, that those who may make a fair trial of it will not accuse me of exaggeration, for I have endeavored candidly to give the value of the article as it has proved itself in my own practice, and not from theory deduced from the natural properties of the medicine. I have said it is necessary, not unfrequently, to continue the medicine for some length of time, in obstinate cases especially. But it is harmless and safe, and will act well in any constitution, and is contra-indicated by no form of idiosyncracy. The dose of the inspissated gall in the form of pills, or otherwise, is from five to ten grains or more, repeated every two or three hours, for a cathartic, and less for a mere laxative effect. It may be given in sufficient doses, at any time, with perfect safety to adults or children.

From the Southern Medical and Surgical Journal.

Remarks on the Treatment of Dysentery. By E. F. Starr, M.D., of Rome, Ga.

This being the season for dysentery, it may be allowable to make a few remarks upon its pathology and treatment.

My only apology for this intrusion is that an astonishing number of deaths from this disease occurs all over the country, seeming to justify a repetition of the opprobious language of Macbeth,

"Throw physic to the dogs—I'll none of it."

I am of opinion that "*physic*" is not so much to blame as *physician*. And as I expect to differ practically, if not theoretically, from many members of the profession, let me suggest that we throw aside preconceived and vague notions and opinions which have been

acquired by the process of *taking for granted*, rather than by reflection and observation, and that we come up fairly, without prejudice or favor, to the consideration of this interesting, because common, and fatal disease.

To premise: it will be admitted that dysentery consists in an irritated or inflamed state of the mucous membrane of the lower intestines—usually slight at first, having a tendency to increase to a dangerous extent or to diminish to convalescence, according to circumstances. I need not enumerate its symptoms, as these are sufficiently well known; but the question may be asked, is dysentery a primary disease?—or does it depend upon a depraved state of the secretions?

I must advocate the former position as generally correct, because I see no good reason for believing otherwise. That the predisposing cause of the disease is a morbid impression made upon the nervous system and reflected upon the intestines, I think very probable; but I must protest against the idea that it depends upon a defective secretion of the neighboring organs. I say this much, because the treatment of many practitioners indicates that they are influenced by a different opinion or theory. Yet, we find in some cases of dysentery a deficiency of the bilious secretion in the alvine discharges; but this no more proves the disease in question to be produced by the want of bile, than it does that the deficiency of bile is occasioned by the disease.

Again: there may be an apparent want of this product when there is no real deficiency. In health there is only a sufficient quantity of bile discharged to color properly one evacuation per day. How then is it to be expected that in dysentery a dozen discharges in the same length of time will be equally colored? In dysentery, we have evident mucous inflammation, more or less intense, producing pain, griping, tenderness, mucous and bloody discharges, &c., &c. The indication is plain, to cure the disease by acting upon it directly where it exists. Have we the remedies to answer this indication? We certainly have. Are they to be found in the catalogue of cathartics? When the physician is called to such a case, the bowels have generally been discharging themselves until there are no consistent matters left, therefore the peculiar service of this class of remedies is not needed. If any cathartic possesses the property of curing inflammation of the mucous coat, I do not know it. I know of none upon which we may rely for this. Why then is so much confidence placed in calomel and other purgatives, to the exclusion or partial exclusion of other more efficient and rational remedies? Who does not know that the preparations of mercury in ordinary doses are highly irritating under some circumstances; and that too when such effect is most to be reprehended and guarded against? And will any body believe that an article

liable to produce the very effect which we wish to combat is the safest and surest remedy to be used?

Not long since, I happened to hear a man speaking of the prevalence of dysentery in a certain section, and of the fatality which attended it, that scarcely any, of a number of cases which he had known, recovered, that nearly all died. Shortly afterwards, I accidentally learned that the practice of a physician who attended among these cases was, to give at first, fifteen grains of calomel at a dose. I did not marvel any more at the tale of mortality. But to come directly to the question, what is the remedy for this disease? I answer, emphatically, opium. This should be considered as the leading remedy in its treatment. The chief properties of opium are to relieve pain, produce somnolency, and cure inflammation of the mucous membranes; and I believe I may add, of most of the other tissues. But the most valuable, is that of curing inflammation and arresting inflammatory tendencies of the system. But, what! give opium before you have *cleansed* the stomach and bowels? I say yes, give it, it will cure them, filthy as they are. Give it, not in quarter grain doses, nor in half grain doses, but in from two to four grain doses, and repeat as often as necessary. Cure the primary disease, and the bile will flow beautifully again, and all will be right.

Thus, then, we have the remedy to answer the plain and unmistakeable indication of the disease, which used in time and in connection with cold water injections, blisters, the astringents, tannin, lead and zinc, creosote, &c., with the common effervescing soda powder to allay nausea and vomiting, where that exists, will rarely fail to secure a happy result. Try it, use it liberally, try it fairly, perseveringly, early in the attack, and the confidence of the community in the profession will be strengthened and increased by its success.

A good combination is made of two grains of opium and from half to one drop of creosote for a dose, to be repeated at proper intervals; and for children, an emulsion containing two drops of creosote to the ounce, with the addition of as much laudanum as may be desirable, to be given in tea-spoonful doses about three times a day.

From the London Lancet.

Ague Treated by a Terebinthinate Liniment along the Spine.

M. ARAN mentions, in the *Bulletin de Therapeutique*, that he has succeeded in staying ague fits by the use of the following liniment:—Essential oil of turpentine, three ounces and a half; chloroform, about one drachm. The patient was a young man, with whom quinine had failed, and the above liniment was used about

two hours before the fit. The latter appeared at the usual hour, but was somewhat shorter than the preceding; the second was kept off for four hours; the third failed to appear altogether, and the patient was soon quite well, experiencing only for a few days a certain amount of discomfort at the accustomed hour of the fits. The liniment had several years ago been introduced by M. Bellencontre, laudanum being, however, used instead of the chloroform employed by M. Aran.

A New Way of Taking Cod-liver Oil.

Dr. BENEDITTI recommends the following means for disguising the nauseous taste of cod-liver oil:—Make a paste with the oil and powdered starch of arrow-root, and prepare the bolus by wrapping it in a moistened wafer. About sixteen of such boluses night and morning suffice in the beginning; more may subsequently be taken, or they may be made larger, as the swallowing of them becomes easy by habit.—*Ibid.*

Chloroform Ointment for Hemicrania and Neuralgia.

M. CAZENAVE, of Bordeaux, recommends the above ointment, which is prepared as follows:—Pure chloroform, three drachms; cyanide of potassium, two drachms and a half; axunge, two ounces; add a sufficient quantity of white wax to make an ointment of the usual consistence.—*Ibid.*

Extraordinary Fecundity.

A Belgian paper states that a woman, thirty-three years of age, is now living at Liege, who affords an astonishing example of fecundity. She was lately confined of triplets, who are respectively her twenty-second, twenty-third, and twenty-fourth children. She has thus had, during nine years of married life, twenty-four children, all in good health, and of the female sex.—*Ibid.*

EDITORIAL.

Transactions of the Illinois State Medical Society for 1852.

In a previous number we published a brief account of the proceedings of the Illinois State Medical Society, at its annual meeting held at Jacksonville on the 1st of June last. Since then we have received a copy of the published transactions, containing, in addition to the minutes of the meeting, the valedictory address of the retiring president, Dr. S. Thompson, a report from the Committee on Practical Medicine, and several interesting papers presented by members of the society.

The valedictory address of Dr. Thompson is what might have been expected from one who for many years has been devoted to the study, as well as practice, of his profession; well written and filled with high-toned sentiments and valuable suggestions. One of the principal objects in the address is to impress upon the members of the society, and others of the profession, the importance of availing ourselves of what is already known and established, and the dangers to be apprehended from a neglect of old truths, in our love for what may purport to be newly discovered facts and recently expressed views and opinions.

No worthy member of our profession can fail to appreciate and fully endorse the views expressed in the two following concluding paragraphs of the address:—

"The objects of our society are to gain knowledge, to draw the line between knowledge and ignorant pretence.—To make the acquirements and experience of all be for the benefit of each.—To supply the non-professional public not only with better advice, in their sufferings, but to mark the line by which they may be guided in selecting those to whom to entrust their health.

"We can only do this by our own eminence in skill and knowledge. A practiced eye can distinguish slight shades of difference in the size or color of objects; but to those who in such matters cannot possess this acumen we must be sure there are no approximating colors. We must be white as against black; high as contrasted with low; learned, in fact, not ignorant smatterers. Thus shall we mark the distinction between the physician and the quack, by an appeal to the sense of the community, and their own interest,

which is above all legal distinctions, or legal protections, either for the people, or the profession."

The report of the Committee on Practical Medicine by its chairman, Dr. N. S. Davis, being, as it is, made up from materials derived exclusively from the views, and results of the observations and experience, published during the year by Physicians of Illinois; is particularly valuable and interesting to the practitioners of this and the neighboring States.

Much credit is due to this committee for showing, by the result of their efforts to embody in this report the facts and remarks which a *few* have recorded, what might be accomplished if *more* of our physicians would do themselves and the State justice, and be faithful to the interests of the profession, by publishing from time to time (in our *Journal* of course) the results of their observations and experience.

Much of the matter contained in the report has been taken in the form of abstracts and quotations from this *Journal*, and has been the means of eliciting from the committee facts and remarks, many of which are especially interesting when taken in connection with the published articles to which reference is made.

Under the head of "opium in large doses," is a somewhat extended notice of Dr. A. G. Henry's paper, on its use in dysentery and fever, at the conclusion of which, Dr. Davis adds the following as the result of his experience :—

"Having seen much of the typhus and typhoid fevers in New York, and the intermixture of these types with our common remittents in this city, and especially among the poorer classes admitted into the medical wards of the Illinois General Hospital, we are satisfied that nothing could be more injurious than the indiscriminate application of any '*plan*' of treatment to all the forms and varieties of fever, whether such *plan* consists in the exhibition of large doses of opium or anything else. That the exhibition of four or six grains of opium immediately after a free evacuation of the alimentary canal by calomel and ipecac will often throw the patient into a profuse sweat, and cut short an ordinary bilious or remittent fever, I have no doubt. That it will occasionally fail, however, and induce a most dangerous degree of stupidity or narcotism, I am equally certain. While in typhoid cases, complicated as they generally are with intestinal or bronchial irritation and ulceration, the *large* doses of opium will not *occasionally* but generally fail to produce any favorable impression whatever. And in

one or two cases, coming under my own observation, they produced manifestly fatal results. Instead of regarding all the types of fever as amenable to one *plan* of treatment, we are confident that much of the skill and success of the practitioner will depend on the accuracy with which he discriminates the type, tendency, and complication of each individual case."

After quoting from an article translated from the French, for the November number of this *Journal*, on the use of the extract of beef's blood as a remedial agent, the chairman of the committee gives the following as the result of his experience :—

"Often meeting with cases of protracted and extreme anæmia in the wards of the Illinois General Hospital, the chairman of your committee prepared a quantity of the dried blood, and exhibited it in several strongly marked cases of anæmia arising from different causes. In most of the cases its effects were most salutary and gratifying. One of the most striking cases was a young man, brought into the Hospital for a supposed affection of the heart. His whole surface appeared bloodless; his tongue and lips pallid; his pulse small, quick, and easily compressed; he had giddiness, frequent palpitations, especially on making an attempt to sit up, or walk. The bowels were slightly costive, and appetite indifferent. Auscultation revealed the usual bellows murmur of extreme anæmia, but no symptoms of organic disease. He stated that some weeks previous he had suffered from a protracted course of periodical fever. He was ordered twenty grains of the extractum sanguinis, or dried blood, every six hours, and a simple but nutritious diet. Under this course he improved so rapidly that in little more than two weeks he left the Hospital, and resumed his work as a laborer."

"Cerebro-spinal arachnitis" is noticed in the report, in connection with remarks upon the articles published in our *Journal* upon this subject by Dr. James Smick, Dr. J. B. Nash, and Dr. J. S. Whitmire.

The following quotation contains the substance of the views expressed by the committee, with regard to the articles referred to, and the nature of the disease under consideration :—

"We think every reader of much experience in our periodical fevers will at once recognise those cases as simple *congestive intermittents*, in which the brain and spinal cord were specially involved. Founding his opinion on the observation of those cases, Dr. Whitmire was undoubtedly right in regarding them as destitute of inflammation, and to be successfully treated only by the most prompt administration of anti-periodics in full doses. His error, if any, consisted in applying to them the name of 'Cerebro-Me-

ningitis,' from which they manifestly differ widely in many essential symptoms, as well as in their progress and final termination.

"*First.* The cases of Dr. Whitmire were 'strictly periodical,' the patients usually becoming quite comfortable between the paroxysms; while in true cerebro-spinal meningitis, if the accompanying fever remits, the symptoms of cerebral disease remain well marked until the case terminates in the beginning of convalescence or in death.

"*Second.* In the true meningeal disease, the effusion found on post mortem examination is not merely 'bloody serum,' as represented by Dr. Whitmire, but consists of more or less purulent matter, and often a thick layer of well formed pus over the whole surface of the pia-mater and arachnoid; the membranes themselves bearing all the marks of intense inflammation. Thus, Drs. Smith and Payne, in making a post mortem examination of one of their fatal cases, found, 'on opening the cranium, the external blood-vessels were highly congested; the arachnoid was inflamed in every part of it, and covered with a *thick layer of pus.*' Such appearances could not arise from mere 'congestion or paralysis of the cerebral vessels.' Hence we must agree with all those who have examined fatal cases, that the cerebro-spinal disease is not only inflammatory, but most rapidly and intensely so.

"The principal objections to Dr. Smick's views in reference to the malarious origin of the disease, are its occasional prevalence in districts of country and at seasons of the year generally exempt from the prevalence of malaria, and its entire absence in other districts and seasons when all the circumstances supposed by Dr. Smick to favor its development are present in a high degree. From the facts detailed by Dr. Smick it is evident that the localities in which he has observed the disease were highly malarious, and from the symptoms detailed it is equally evident that whether *malaria* was the essential cause or not, this influence constituted an important element in its character: and hence that the early resort to quinine and powerful revulsives constituted an important part of the treatment; just as they do in pneumonia when it occurs in localities highly favorable to the prevalence of periodical fevers. In all such instances great caution is required to prevent overlooking the primary or essential causes and pathological conditions in view of those that are accidental or merely modifying."

Embodied in the report are two short articles upon "the progress of epidemics," one by Dr. H. Shoemaker, of Monroe Co., the other from Dr. J. T. Stewart, of Peoria.

The following quotation from the paper of Dr. Shoemaker contains the substance of his remarks upon epidemic dysentery, as it prevailed in Southern Illinois during the last year:—

"As regards epidemics in Southern Illinois during the last twelve months, so far as has come to my knowledge, two only have appeared; these were of quite a different character; the first, dysentery of a very grave type, usually accompanied by considerable hæmorrhage, and very obstinate to treatment. So great was the flux of blood in many that at an early period I had recourse to the mineral tonics; among which the oxide of silver, so highly commended by Sir James Eyre, and others. I must confess myself disappointed in the result. The nitrate of silver in solution, in starch enema, was found of more marked benefit. These remedies were of course used with, or subsequent to, the exhibition of mercurial alteratives. The most certain treatment was the old one of minute doses of calomel or hydrarg. cum creta, and a plentiful supply of solid opium, anodyne fomentations to the abdomen, starch and nitrate of silver injections. When toleration was established, free doses of Dover's powder were of marked benefit; and where a disposition to paroxysmal returns was manifested quinine was had recourse to; where there was a proclivity to anæmia, (a thing very common after fluxes of blood,) the citrate of quinine and iron combined with small doses of pulv. Rhei, say five grains of the latter and three of the former, given every four or five hours, had an excellent effect."

Our readers may learn what constitutes Dr. Stewart's treatment of the above-named disease, from the following quotation from his paper:—

"In the dysentery that followed the cholera nothing peculiar was noticed except a tendency, in the month of October, to assume a periodical character, in which cases it yielded to sulph. quinine. I found a combination of sulph. morphia, gum camphor and calomel act very promptly in arresting this disease in many cases; but the treatment I usually found most effectual was a powder every four hours of calomel gr. j. a. ij., gum camphor gr. ij. a. iij., sulph. morphia gr. qr., pulv. ipecac gr. ss., alternating with a table-spoonful of the following mixture: ol. Ricini scru. j., pulv. G. acaciæ dr. ij., sacch. alb. dr. iij., aq. menth. scru. iv. Some cases which had resisted other treatment for a considerable time yielded readily to the simple oleaginous mixture given in table-spoonful doses every four hours."

Dr. Thos. Hull, one of the committee on practical medicine, made a report in addition to the one made by the chairman, in which he gives his views and the result of his experience in the treatment of a severe form of epidemic dysentery, as it prevailed in the Northern part of the so-called Military district, as follows:

"My view of the matter is simply this, that the epidemic of last

year was a miasmal disease, a modification merely of our autumnal fevers, or, in the language of Sydenham, 'the dysentery I speak of is the very fever itself, with this particularity, that it is turned inwards upon the intestines, and discharges itself that way.' He has also recorded an 'epidemic looseness' that precedes the dysentery, which was ushered in by 'chillness and shaking,' injured by rhubarb and astringents, successfully treated by bleeding and a cool regimen; and he goes on to say, 'this disease, though naturally gentle, frequently proved mortal.'

"The first impression of the exciting cause being made on the organic nerves, a diminution or loss of nervous energy and vital power is the consequence, and which in ordinary years would be followed by chill and fever, but owing to other causes, concurring and determining, is deflected from its usual course. The successive effects probably take place in the following order: congestion of the liver, (biliary and venous,) of the spleen, of the mucous membrane of the bowels, particularly of the descending colon, irritation, inflammation, suppuration and ulceration, gangrene and death.

"Admitting this view to be correct, the indications for sound treatment were plain, and were promptly and fearlessly carried into effect. The first patient in which it was adopted was an intelligent individual. I explained to him my views of the disease, and the way I wished to treat him. He at once consented. In this case mucous diarrhœa had existed about twenty-four hours, and for some five or six hours the discharges had increased in frequency, and were mixed with blood. The countenance anxious, skin sallow, tongue loaded, liver tender, spleen enlarged, and unusually sensitive; the ascending, transverse, and a small portion of the descending colon loaded, but no uneasiness felt, on pressure; the remaining portion extremely sensitive; and a constant harassing desire to micturate and empty the bowels. Thirty grains of calomel, three of ipecacuan., and a quarter of a grain of the muriate of morphine were given, followed, in three hours, by two ounces of castor oil, and thirty minims of laudanum. In a little over two hours after taking the oil he had a copious fæcal evacuation, with mitigation of all the distressing symptoms. This was quickly followed by others, but of a more bilious character. Nitrate and bi-nitrate of potash were dissolved in water as a drink. Every trace of the disease had vanished from the discharges in four hours from the operation of the medicine. Some tenderness remained in the descending colon, but much diminished: the spleen perceptibly lessened, and it and the liver less sensitive. Twenty grains of quinine, and a quarter grain of morphine was given at bed-time. The bowels were subsequently kept gently open for a few days with oil. Quinine in common doses was continued, and the disease never returned.

"This treatment was carried out in every succeeding instance,

one only excepted, and the result is here given in a tabular form. The number of days includes the day on which the medicine was given, and succeeding days, until no mucous trace existed in the alvine discharges. I will here remark that considerable alarm existed in the public mind at this time; and I believe that every case was treated, if not seen, on the day when blood was first discovered in the stools. It will be noticed that in six cases the disease was crushed in twenty-four hours, or less, that is, on the day after the medicine was taken the discharges were free from blood and mucous.

CASES.	DURATION.	
6	1 day,	6
19	2	38
12	3	36
1	4	4
1	5	5
1	6	6
40		95 av'ge 2⅜ days.

"In these cases every symptom of dysentery was present. I have purposely omitted all where no blood was visible in the discharges, although I believe that if 'the discharges be frequent, mucous, and accompanied with gripings, the distemper may as justly be termed dysentery as if the blood was discharged with them.' That is, during the prevalence of the 'dysenteric constitution.'"

In addition to matter embraced in the reports of committees, we find in the published transactions under consideration three papers, two from Dr. E. S. Cooper and another from Dr. L. C. Lane, both of Peoria.

Dr. Cooper deserves much credit, and is entitled to the thanks of the profession for his two interesting papers, describing surgical instruments which he has invented, one for cauterizing the urethra, the other for treating "incomplete anchylosis of the knee joint." If, after being tested, the last named instrument should prove as useful in the hands of others as in those of the inventor, as appears from the history of several cases reported by him, it must come into general use, for the treatment of numerous cases previously considered as very intractable, if not incurable.

Dr. L. C. Lane in a short paper, embracing the history of a case to illustrate his views, contends that lacerated and contused should be changed into incised wounds, by cutting off the lacerated and contused portions. This, doubtless, is the proper treatment, yet

we are not aware that there is anything original in the suggestion. All good surgeons, we believe, should make it a rule to remove parts so much injured as to endanger their vitality. H.

Treatment of Chronic Diseases of the Heart.

M. MONNERET has read before the Medical Society of the Hospitals of Paris an essay on the pathology and treatment of chronic diseases of the heart. From the *Revue Medico-Chirurgicale de Paris* we translate for our readers that part of it which relates to treatment; giving, in the first place, a *resume* from the pathology of the writer, in which he maintains that—

The visceral hyperæmias constituting the sole causes of the different morbid conditions observed in diseases of the heart, are themselves produced—1st, by the progress of the valvular lesions and by the cardial hypertrophy; 2nd, by the feebleness of the cardial muscles; 3d, by the primary retardation of the blood in the parenchymæ, from whatever cause; 4th, by general debility of the nervous system. It is to this fourth class of lesions and functional disturbances that we are to direct all our treatment.

The writer then proceeds to point out briefly those diseases having their origin in a mechanical and dynamical alteration of the circulation.

TREATMENT.

1st. *To act upon the heart.*—The physician ought to assure himself of the state of the cardial contraction, and accordingly as it may be too strong or too feeble, he should lessen or increase its power by proper treatment.

2d. *To act upon the capillaries* 1st, by removing more or less directly the congestion of those of the lungs, liver, kidneys, &c.; 2d, by stimulating the systemic capillaries; 3d, by exciting secretion and exhalation, in order to relieve the blood of some of its principles, and thus reduce the hyperæmia.

3d. *To act upon the blood,* either diminishing its stimulant qualities by impoverishing it, or giving to it contrary properties by the aid of excitant medicines which propagate their action throughout the vascular system. Bloodletting, digitalis, stimulants, and still other medicines, have been proposed to meet the indications which

I have pointed out. I shall examine a few of the therapeutical agents most commonly used.

Bloodletting. When called to a patient laboring under intense dyspnœa, and presenting all the symptoms of marked bronchial and pulmonary congestion, the first suggestion is to relieve the vascular system, by taking blood. Many physicians obey this impulse, dictated often by the desire of the patient, and the momentary relief which sometimes follows the operation. However, it is not difficult to convince one's self that bleeding, instead of rendering the circulation more easy, only increases the congestions by enfeebling the heart and the capillary vessels of the whole organism. If the operation is repeated, the anxiety and pain of respiration is augmented; the beats of the heart become irregular and tumultuous; the pulse feeble; the blueness and coldness of the surface more intense, and the patient finally succumbs suddenly by syncope, or after a longer agony, full of suffering both for himself and his friends.

Bleeding ought to be still more strongly prohibited where the heart, already enfeebled, becomes dilated and distended with blood, as in passive aneurism of Corvisart. The march of the congestions is more gradual, more slow in active aneurism, but is not arrested by bleeding.

Some physicians of great merit have wished to found the therapeutics of affections of the heart upon the lesions of the valves. Insufficiency of the valves contra-indicates formally the employment of bloodletting, digitalis and debilitants. These agents will, on the contrary, be almost indispensable in contraction. We find here one of those systematic ideas so frequent in medicine. Active and passive aneurism of Corvisart has been succeeded by hypertrophy, and this last in turn, has given place to the valvular theory. We speak and act now only with reference to insufficiency of the valves or contraction, determined or suspected, of the cardiac orifices.

We are then absolutely forced to diagnosticate the anatomical lesion in order to treat the disease. I will remark, in the onset, that these two affections are often found in the same orifice, or that they occupy each one of the two openings. This constitutes the first difficulty. The second consists in the entire absence in many cases of the physical signs of insufficiency of the valves or contraction of the cardiac orifices.

The disturbance of the circulation is sometimes such that it is impossible to distinguish the diagnostic signs in precisely those cases where it is most necessary. Finally, the cardiac hypertrophy and the pulmonary congestions depend, although in rare cases, upon disease of the aorta, of the pericardium, of the pulmonary tissue, of the bronchia, and even of the pleura. Insufficiency of the valves and contraction are in these cases entirely hypothetical, and the practitioner is driven for the fourth time from a source so sterile of therapeutical indications.

On the other hand, of what imporiance is it that valvular disease may be caused by these lesions? They are entirely beyond the sources of art, and cannot serve as a base for therapeutics, as I shall show hereafter. It is not the same with hypertrophy, produced for the purpose of safety and preservation. It retards the sad progress of these congestions, and often even prevents for a long time their development, when it is restricted within certain limits. It is by cardiac hypertrophy that nature struggles against the difficulties of the greater and lesser circulation. It is this also that the practitioner ought not to lose sight of in choosing his remedies to combat the disease. Some diseases, depending upon dilatation of the aortic orifices with insufficiency of the valves, only present very slowly these congestions and dropsical effusions. They are also sometimes less intense and less general than in those subjects in which the cardiac orifices are strongly contracted. But there comes at last a time when these two classes of disease are confounded, and then bloodletting is no longer to be proscribed, or practised upon any other indication than that which is drawn from the dynamic state of the heart and general forces. I consider, finally, as so many contra-indications to bloodletting: First, anæmia, from whatever cause; second, embonpoint, so frequent in persons affected with aneurism, in whom the reaction is very imperfect after depletion; third, old age; fourth, emphysema and difficult expectoration, in which general bloodletting is not advisable. I am convinced that we may replace it in practice by local bleeding, more or less frequently repeated—by the aid of leeches, or of cups upon the regions occupied by the viscera which are the seat of congestion, or over the vessels which are in communication more or less directly with them. Leeches, applied to the extremity of the rectum, act

beneficially in overcoming congestion of the liver and the capillaries of the venæ portæ. Congestion of the respiratory organs may also be relieved by scarified cups to the side of the chest and over the sternum. These local and partial depletions are much more efficacious in capillary congestions than general bleeding.

Laennec very truly remarks that, "the observations of practitioners of all ages upon bloodletting, whether general or local, arterial or venous, for the purpose of depletion or derivation, prove a certain independence between the action of the heart and that of the other vessels." I think we have too long neglected to study the effects of local bleeding, which does not enfeeble the organism, and which, nevertheless, diminishes or removes congestion in the same manner as spontaneous and critical hæmorrhages, which, to a certain extent, they resemble.

The debilitating treatment, of which bleeding, low diet, and diluents are the principal agents, has been recommended indiscriminately in all affections of the heart; it is still more used than all others, and yet it exposes the patient, when most enfeebled, to sudden death, as happens by the murderous treatment of Albertini and Valsalva. The better treatment for hypertrophy is that which is founded upon hygiene, especially when called to the patient early, and before there is much obstruction of the capillary circulation.

When congestions have once become established, especially in a slow and chronic manner, and after they have become general, instead of yielding to the debilitating treatment they increase under its influence. Those patients who resist the disease best, and who endure the longest, are vigorous, athletic men, who have been submitted to no treatment, and who often have lived contrary to the precepts laid down by writers upon hygiene. It is useless to enumerate the debilitating agents, they are universally known.

Digitalis. There is not a single affection of the heart for which digitalis or digitalline has not been recommended, for the single reason that it reduces the number, and diminishes the intensity of the cardiac contractions. I confess that I have never had great confidence in the action of these medicines, although I have experimented with them with care in a great number of cases. I have become convinced that their use, instead of being general, ought to

be restricted to those special conditions which I shall point out, but which rarely occur.

Digitalis is much more dangerous than bloodletting from the fact that the one removes a portion of the natural stimulant of the vessels at the same time that it diminishes their contractile energy, while the other enfeebles the circulating organs, leaving in them the same quantity of fluid to be moved. Digitalis produces, then, an effect directly opposed to the operations of fore-seeing and reparative nature, increasing the size of the heart and tripling as she does its force of contraction. By reducing the functional activity of the heart it only diminishes the *vis a tergo*, and increases the congestion of the parenchymæ.

Digitalis has appeared to me to be especially injurious to patients affected with passive aneurism, and in all cases where the obstacles to the circulation are great and the general forces weak. It should be prohibited still more strongly when the disease has advanced to its later stages, when it is accompanied with all the symptoms of chronic catarrh, œdema of the lungs, and that hyperæmia to which sometimes succeeds pneumorrhagia. The signs which contra-indicate digitalis are feebleness, irregular and intermittent beating of the heart and arteries, and the disappearance of the abnormal sounds previously clear and distinct. It is precisely when digitalis acts in an energetic and prompt manner that we should be fearful of its effects. In such cases I have seen the symptoms of congestion increased, and yield only with difficulty after from five to eight days. In some cases even the propelling force of the heart remains affected till death. I have always present in my mind a case, which I have elsewhere reported, of a patient in which the valves of the aorta were almost entirely detached. The dyspnœa, the anxiety and the disturbance of the circulation constituted an assemblage of alarming symptoms which continued for several days, I administered the digitalis, and the action of the heart was very sensibly reduced; a few days afterwards the patient died by syncope, and with the formation of a well organized fibrinous clot. This case, together with several others less grave in their character, has led me to be very careful in using digitalis. I fear to administer it in all cases in which there is feebleness and irregularity of the cardiac circulation, intense blueness of the surface, sleepiness,

drowsiness, and sensible coldness of the extremities. There remains, then, only a small number of cases in which digitalis may be administered with advantage. If, for instance, one is called in time, when the disease is confined to the heart alone, constituting active aneurism, we may associate digitalis with moderate bleeding and especially with a severe dietetic regimen. This treatment has sometimes the effect of immediately arresting the progress of the hypertrophy of the heart, and of diminishing its functional energy. I have not occupied myself with the diuretic properties of digitalis, I will only remark that they are often the true cause of the amelioration in symptoms, which is generally, but falsely, attributed to the special action of the drug. J.

(*To be continued in our next.*)

Translated from the French.

New Agent for Detecting the Quantity of Urea in the Urine. By M. LIEBIG.

THERE are few questions in medicine more interesting than that which relates to the quantity of urea in the urine, because there are few diseases which do not modify more or less notably the proportion of this constituent. It will then be rendering an immense service to the art of curing, to provide physicians with a rapid and sure means of determining the proportion of this element.

Several valuable methods have already been discovered, but no one attains perfectly the end proposed. Some are faulty from their complication, others from their want of accuracy. One of the best consists in converting the urea into carbonate of ammonia and then determining, by known methods, the quantity of nitrogen; but it is evident that such a procedure requires a manipulation too long and too delicate to be conducted by physicians; it is, therefore, resorted to only in rare cases where rigorously exact analyses are desired.

Professor Liebig has discovered that urea combines with the binoxyde of mercury to form an insoluble compound, and he has founded upon this simple observation a method, which, without being perfectly exact, is at least very convenient for determining rapidly the proportion of urea in the urine.

He commences by preparing a solution of neutral nitrate of mercury in distilled water, so as to obtain a normal liquor, which is kept separately. Then when he wishes to examine the urine for the purpose of determining the quantity of urea which it contains, he adds gradually this normal liquor until the precipitate ceases. The quantity of the normal liquor added gives, within certain limits, a measure of the urea. Here, however, is a necessity for care. The precipitate which is formed is composed, as M. Liebig has shown, of 1 equivalent of urea

1 " of nitric acid,

1 " of the binoxyde of mercury.

From which it results that for each equivalent of urea precipitated in the new compound, there ought to be, and there is, in fact, three* equivalents of nitric acid which become free in the liquor. But the presence of this acid forms a serious obstacle to the further action of the nitrate, so that when the precipitate ceases to form, there is still a certain quantity of urea in the urine, which can only be thrown down after having saturated the free acid. This is done by adding gradually the water of baryta, taking care not to add it in excess, after which a new quantity of the normal liquor may be added, and a new precipitate obtained; and thus by successive additions of the normal liquor and the water of baryta, the whole of the urea may finally be precipitated. It is then that the whole quantity of normal liquor added furnishes a measure sufficiently exact of the quantity of urea.

This procedure has been repeated by Dr. Hoffman, who has spoken very favorably of it in a report which he has made to the Chemical Society of London, the 19th of January last. J.

* There seems here to be a mistake. According to the general law of combination as many equivalents of acid are required to saturate a base as there are atoms of oxygen in the base. There would, therefore, be one equivalent of free nit. acid, instead of three as in the text.—[J.]